

09/926454

PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of:

Syouji HIGASHIDA et al.

New U.S. National Phase of PCT/JP01/01672

Filed: November 6, 2001

Attorney Dkt. No.: 107400-00044

For: SEMICONDUCTOR DEVICE

PRELIMINARY AMENDMENT

Commissioner for Patents
Washington, D.C. 20231

November 6, 2001

Sir:

Prior to initial examination of the application, please amend the above-identified application as follows:

IN THE CLAIMS:

Please amend claims 5 and 6 as follows:

5. (Amended) The semiconductor device of claim 1, wherein said p-type layers and said n-type layers are formed so as to have the same width and the same concentration of impurities, in the same conductivity type, respectively.

6. (Amended) The semiconductor device of claim 1, wherein a diffusion region having a difference conductivity type from that of said semiconductor layer is formed on the closest side to said protective diode of said transistor cells arranged, and said source wiring contacted to the most inner layer of said protective diode is contacted to said diffusion region.

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REMARKS

Claims 1-7 are pending in this application. By this Amendment, claims 5 and 6 have been amended to delete improper multiple dependency. No new matter is contained in the amendments.

Please charge any fee deficiency or credit any overpayment to Deposit Account No. 01-2300.

Respectfully submitted,



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connecting portions so as to connect to gate electrodes of said transistor cells with partial striding over said protective diode, and said gate connecting portions and source connecting portions of said source wiring which are
5 contacted with said most inner layer are alternately formed in plan view.

4. The semiconductor device of claims 1, 2 or 3, wherein said p-type layers and said n-type layers are made of at least one selected from polysilicon, amorphous silicon,
10 single-crystal silicon on a insulating layer, SiC and SiGe.

5. The semiconductor device of ^{claim 1} any one of claims 1 to 4, wherein said p-type layers and said n-type layers are formed so as to have the same width and the same concentration of impurities, in the same conductivity type,
15 respectively.

6. The semiconductor device of ^{claim 1} any one of claims 1 to 5 wherein a diffusion region having a difference conductivity type from that of said semiconductor layer is formed on the closest side to said protective diode of said
20 transistor cells arranged, and said source wiring contacted to the most inner layer of said protective diode is contacted to said diffusion region.

7. A semiconductor device according to claim 1, wherein said p-type layers and said n-type layers comprising
25 said bidirectional diode are not flatly formed but are alternately formed in a height direction.